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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHAD MUNRO and PETER SENN

Appeal 2009-003378
Application 10/530,087
Technology Center 3700

Decided¹: July 10, 2009

Before SALLY GARDNER LANE, SALLY C. MEDLEY and
MICHAEL P. TIERNEY, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

A. STATEMENT OF THE CASE

Synthes, the real party in interest, seeks review under 35 U.S.C. § 134(a) of a Final Rejection of claims 1 and 4-21. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

References Relied on by the Examiner

Aginsky	4,227,518	Oct. 14, 1980
Seidel et al. ("Seidel")	4,858,602	Aug. 22, 1989
Pennig	5,356,410	Oct. 18, 1994
Chemello	6,077,264	Jun. 20, 2000
Stedtfeld et al. ("Stedtfeld")	DE19829228	Oct. 28, 1999

Rejections on Appeal

The Examiner rejected claims 1, 7, 9, 13 and 21 under 35 U.S.C. § 102(b) as anticipated by Chemello.

The Examiner rejected claims 6 and 16 as unpatentable under 35 U.S.C. § 103(a) over Chemello.

The Examiner rejected claims 1, 4-8, 13 and 16 as unpatentable under 35 U.S.C. § 103(a) over Stedtfeld and Chemello.

The Examiner rejected claim 14 as unpatentable under 35 U.S.C. § 103(a) over Stedtfeld, Chemello and Pennig.

The Examiner rejected claim 18 as unpatentable under 35 U.S.C. § 103(a) over Stedtfeld, Chemello and Seidel.

The Examiner rejected claims 17, 19 and 20 as unpatentable under 35 U.S.C. § 103(a) over Stedtfeld, Chemello, Seidel and Pennig.

The Examiner rejected claims 1, 9, 11 and 12 as unpatentable under 35 U.S.C. § 103(a) over Aginsky and Chemello.

Synthes argues separately several different groups of claims, which shall become apparent in the analysis.

The Invention

Synthes discloses, referring to Synthes' figure 2 reproduced below [numbers from figure 2 inserted], a bone fixation device including an intramedullary pin [1] with a bone plate [10] disposed at the proximal end of the intramedullary pin [1]. The intramedullary pin [1] has a longitudinal axis [17] and includes a borehole [6] transverse to the longitudinal axis. The bone plate [10] also includes an angled tab [22]. Spec. 4-5.

Synthes' figure 2 is below:

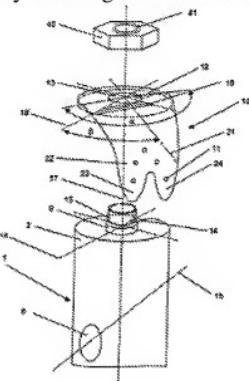


Figure 2 depicts an intramedullary pin and bone plate.

Claim 1, reproduced from the Claim Appendix of the Appeal Brief, reads as follows:

A bone fixation device comprising:
an intramedullary pin having a longitudinal axis, a proximal end, and a distal tip configured and dimensioned for insertion into a medullary canal of a bone, the intramedullary pin having a total length with proximal and distal halves, and the proximal half of the intramedullary pin includes at least one borehole passing through the intramedullary pin transverse to the

longitudinal axis, the at least one borehole defining a transverse borehole axis;

a bone plate disposed at the proximal end of the intramedullary pin, the bone plate having a length extending toward the distal tip of the intramedullary pin and adapted to lie in contact with the greater trochanter;

wherein the length of the plate ends proximally above the borehole in the intramedullary pin; and

wherein the bone plate includes an angled tab configured and dimensioned to have a center of gravity lying on a radius of a cross-sectional area of the intramedullary pin taken orthogonally to the intramedullary pin's longitudinal axis and enclosing an angle β relative to a plane defined by the transverse borehole axis and the intramedullary pin's longitudinal axis, where angle β is between 0° and $+100^\circ$ or between 0° and -100° .

B. ISSUE

Has the Examiner incorrectly determined that “an angled tab configured and dimensioned to have a center of gravity lying on a radius of a cross-sectional area of the intramedullary pin . . . and enclosing an angle β relative to a plane defined by the transverse borehole axis and the intramedullary pin's longitudinal axis” is a functional limitation that only requires the prior art to be capable of performing the recited function?

C. FINDINGS OF FACT (“FF”)

Chemello

1. Chemello describes, referring to Chemello's figure 4a reproduced below [numbers from figure 4a inserted], a nail inserted in the medullary canal of a bone which includes a bushing [9], a lip [91] and a transverse hole for insertion of a transverse screw [21]. Col. 4, ll. 29-54.

Chemello's figure 4A is below:

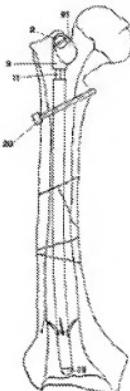


Figure 4A depicts a nail and screw inserted in a bone.

2. Chemello does not describe the location of the center of gravity for the lip [91].

Aginsky

3. Aginsky describes, referring to Aginsky's figure 1 reproduced below [numbers from figure 1 inserted], a nail inserted in the medullary canal of a bone including two connector strips [18] (only one shown), a centrally perforated disk [15] and a threaded nut [16] connected to the proximal end of the nail. Col. 3, ll. 41-56; col. 4, ll. 6-21.

Aginsky's figure 1 is below:

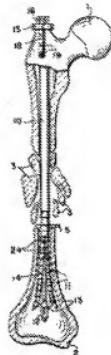


Figure 1 depicts a nail inserted in a bone.

4. Aginsky does not describe the location of the center of gravity for the connector strips [18].

D. PRINCIPLES OF LAW

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

If the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if that element is “inherent” in its disclosure. To establish inherency, the extrinsic evidence “must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” . . . “Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.”

In re Robertson, 169 F.3d. 743, 745 (Fed. Cir. 1999) (citations omitted).

E. ANALYSIS

Anticipation of claims 1, 7, 9, 13 and 21

Independent claim 1 recites (disputed limitations in *italics*): “an intramedullary pin having a longitudinal axis . . . the proximal half of the intramedullary pin includes at least one borehole passing through the intramedullary pin transverse to the longitudinal axis, the at least one borehole defining a transverse borehole axis; a bone plate disposed at the proximal end of the intramedullary pin . . . the bone plate includes *an angled tab configured and dimensioned to have a center of gravity lying on a radius of a cross-sectional area of the intramedullary pin taken orthogonally to the intramedullary pin's longitudinal axis and enclosing an angle β relative to a plane defined by the transverse borehole axis and the intramedullary pin's longitudinal axis, where angle β is between 0° and $+100^\circ$ or between 0° and -100° .*” Claim App'x. 15.

The Examiner finds that Chemello describes an intramedullary pin and bone plate which includes an angled tab (i.e., lip [91]). Final Rejection 2-3; Ans. 3, 11. The Examiner finds that the disputed limitations, highlighted above, are functional recitations and the prior art device only needs to be capable of performing the function. Final Rejection 10; Ans. 11. The Examiner finds that Chemello’s angled tab (i.e., lip [91]) is capable of being configured and dimensioned as recited in the claims. Final Rejection 3-4; Ans. 11. Last, the Examiner finds that Chemello’s bone plate is capable of being rotated about the proximal end of the intramedullary nail and therefore the center of gravity of the angled tab (i.e., lip [91]) can be projected to lie on a radius of a projected cross-sectional area of the intramedullary pin taken orthogonally to the longitudinal axis, wherein an

angle between a projected axis of the transverse borehole and the projected center of gravity is capable of being located at an angle of between 0 and 180° or 0 and -180°. Ans. 12.

Synthes argues that the disputed limitations are structural limitations intended to define the architecture of the tab. App. Br. 6; Reply Br. 3.

Synthes argues that the tab must be dimensioned so that the center of gravity is placed within an angle β of the transverse borehole axis and if it was structured differently, the center of gravity would fall out of the desired β range. App. Br. 6; Reply Br. 3.

Synthes' arguments are persuasive. Claim 1 requires that the angled tab of the bone plate be *configured and dimensioned* to have a center of gravity as specified in the claim. The disputed limitations define the structure rather than the function of the angled tab. All structures inherently include a center of gravity, the location of which will vary depending on the size, shape, thickness, etc., of the structure. A structure that is "configured and dimensioned to have a center of gravity" in a specific location will necessarily have a specific size, shape, thickness, etc., in order for the center of gravity to have that specific location.

In order to anticipate the claims, the structure of the angled tab must be described, either expressly or inherently by Chemello. Chemello does not expressly describe where the center of gravity of the lip [91] (i.e., angled tab) is located. FF 2. The Examiner does not direct us to evidence that makes it clear that the structure of Chemello's lip [91] is necessarily dimensioned and configured to have its center of gravity located as recited in claim 1. It is possible that the center of gravity of Chemello's lip [91] lies on a radius of a cross-sectional area of the intramedullary pin taken

orthogonally to the intramedullary pin's longitudinal axis and encloses an angle β relative to a plane defined by the transverse borehole axis and intramedullary pin longitudinal axis. It is also possible that the center of gravity of Chemello's lip [91] lies outside the radius of the cross-sectional area of the intramedullary pin and does not enclose an angle β . Inherency can not be established by possibilities and probabilities. Therefore, Chemello does not expressly or inherently describe that the lip [91] is configured and dimensioned to have the center of gravity located as recited in claim 1.

For all these reasons, the Examiner erred in finding that claims 1, 7, 9, 13 and 21 are anticipated by Chemello.

Obviousness of claims 6 and 16 over Chemello.

Claims 6 and 16 are ultimately dependent on claim 1. Claim App'x. 16-17. As applied by the Examiner, the obviousness rationale for claims 6 and 16 does not make up for the deficiencies with respect to the rejection of claim 1. For the same reasons explained before, the Examiner erred in determining that claims 6 and 16 would have been obvious over Chemello.

Obviousness of claims 1, 4-8, 13 and 16 over Stedtfeld and Chemello

The Examiner relies on Chemello for describing the disputed limitations of independent claim 1. Final Rejection 4-6; Ans. 5-7. As applied by the Examiner, Stedtfeld does not make up for the deficiencies of Chemello. Final Rejection 5-6; Ans. 6-7. For the same reasons explained before, the Examiner erred in determining that claims 1, 4-8, 13 and 16 would have been obvious over Stedtfeld and Chemello.

Obviousness of claim 14 over Stedtfeld, Chemello and Pennig

Claim 14 is dependent on claim 1. Claim App'x. 16. As applied by the Examiner, Stedtfeld and Pennig do not make up for the deficiencies of Chemello. Final Rejection 7; Ans. 8. For the same reasons explained before, the Examiner erred in determining that claim 14 would have been obvious over Stedtfeld, Chemello and Pennig.

Obviousness of claim 18 over Stedtfeld, Chemello and Seidel

Independent claim 18 recites identical limitations as the disputed limitations of claim 1. *Compare* Claim App'x. 15 with Claim App'x. 17. The Examiner relies on Chemello for describing the disputed limitations. Final Rejection 5-8; Ans. 5-9. As applied by the Examiner, Stedtfeld and Seidel do not make up for the deficiencies of Chemello. Final Rejection 7-8; Ans. 8-9. For the same reasons explained before, the Examiner erred in determining that claim 18 would have been obvious over Stedtfeld, Chemello and Seidel.

Obviousness of claims 17, 19 and 20 over Stedtfeld, Chemello, Seidel and Pennig

Claim 17 is dependent on claim 1, and claims 19 and 20 are dependent on claim 18. Claim App'x. 17. As applied by the Examiner, Stedtfeld, Seidel and Pennig do not make up for the deficiencies of Chemello. Final Rejection 8; Ans. 9. For the same reasons explained before, the Examiner erred in determining that claims 17, 19 and 20 would have been obvious over Stedtfeld, Chemello, Seidel and Pennig.

Obviousness of claims 1, 9, 11 and 12 over Aginsky and Chemello

The disputed limitations of independent claim 1 discussed before are at issue in the rejection of claims 1, 9, 11 and 12 as unpatentable over Aginsky and Chemello.

The Examiner finds that Aginsky describes an intramedullary pin and a bone plate attached to the proximal end of the intramedullary pin. Final Rejection 8-9; Ans. 10; *see FF 3*. The Examiner again finds that the disputed limitations are functional recitations and that the prior art device only needs to be capable of performing the function. Ans. 14. The Examiner finds that Aginsky's angled tab (i.e., connector strips [18]) is capable of being configured and dimensioned as recited in the claims. Ans. 10, 14. The Examiner further finds that Aginsky's bone plate is capable of being rotated about the proximal end of the intramedullary pin and therefore the center of gravity of the angled tab (i.e., connector strips [18]) can be projected to lie on a radius of a projected cross-sectional area of the intramedullary pin taken orthogonally to the longitudinal axis such that the projected center of gravity is at an angle between 0 and 100⁰ and 0 and 100⁰ relative to the projected transverse borehole axis. Final Rejection 8-9; Ans. 10, 14-15.

Synthes argues that Aginsky does not teach or suggest the disputed claim limitations and Chemello does not make up for the deficiencies of Aginsky. App. Br. 13; Reply Br. 10.

As already explained, the disputed limitations of claim 1 define the structure rather than the function of the angled tab. Aginsky does not expressly describe the locations of the centers of gravity of its connector strips [18] (i.e., angled tab). FF 4. While it is possible that the structure of

one of Aginsky's connector strips [18] is configured and dimensioned to have the center of gravity located as recited in claim 1, the Examiner does not direct us to evidence that makes it clear that the structure of one of Aginsky's connector strips [18] is necessarily dimensioned and configured to have the center of gravity located as claimed. The Examiner further does not provide any reasoning or explanation as to why it would have been obvious to one of ordinary skill in the art to modify the combination of Aginsky and Chemello so that the structure of the angled tab would be dimensioned and configured to have the center of gravity located as recited in claim 1. As explained before, Chemello does not describe the disputed limitations of the claim and thereby does not make up for the deficiencies of Aginsky.

For all these reasons, the Examiner erred in determining that claims 1, 9, 11 and 12 would have been obvious over Aginsky and Chemello.

F. CONCLUSION

The Examiner incorrectly determined that "an angled tab configured and dimensioned to have a center of gravity lying on a radius of a cross-sectional area of the intramedullary pin . . . and enclosing an angle β relative to a plane defined by the transverse borehole axis and the intramedullary pin's longitudinal axis" is a functional limitation that only requires the prior art to be capable of performing the recited function.

G. ORDER

The decision of the Examiner rejecting claims 1, 7, 9, 13 and 21 under 35 U.S.C. § 102(b) as anticipated by Chemello is reversed.

The decision of the Examiner rejecting claims 6 and 16 as unpatentable under 35 U.S.C. § 103(a) over Chemello is reversed.

The decision of the Examiner rejecting claims 1, 4-8, 13 and 16 as unpatentable under 35 U.S.C. § 103(a) over Stedtfeld and Chemello is reversed.

The decision of the Examiner rejecting claim 14 as unpatentable under 35 U.S.C. § 103(a) over Stedtfeld, Chemello and Pennig is reversed.

The decision of the Examiner rejecting claim 18 as unpatentable under 35 U.S.C. § 103(a) over Stedtfeld, Chemello and Seidel is reversed.

The decision of the Examiner rejecting claims 17, 19 and 20 as unpatentable under 35 U.S.C. § 103(a) over Stedtfeld, Chemello, Seidel and Pennig is reversed.

The decision of the Examiner rejecting claims 1, 9, 11 and 12 as unpatentable under 35 U.S.C. § 103(a) over Aginsky and Chemello is reversed.

REVERSED

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cc:

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